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AMENDMENT(S) TO THE CLAIMS:

The following listing of claims will replace all prior versions, and listings, of claims on the ~~JAN 1 1 2005~~ application. All claims are set forth below with one of the following annotations.

- (Original): Claim filed with the application.
- (Currently amended): Claim being amended in the current amendment paper.
- (Canceled): Claim cancelled or deleted from the application. No claim text is shown.
- (Withdrawn): Claim still in the application, but in a non-elected status.
- (New): Claim being added in the current amendment paper.
- (Previously presented): Claim added or amended in an earlier amendment paper.
- (Not entered): Claim presented in a previous amendment, but not entered or whose entry status unknown. No claim text is shown.

1.-14. (Cancelled).

15. (Currently amended) An apparatus ~~as recited in claim 13, for inclusion in a station of a wireless network, the apparatus comprising:~~

a radio receiver to wirelessly receive data from at least one remote station, said data transmitted by the remote station as at least one packet of data, the receiver including an analog-to-digital converter producing samples of signals received at the station from the remote station;

a demodulator coupled to the radio receiver to demodulate samples of the signals received at the receiver from each station to produce, demodulated signals from each of the remote stations; and

a signal quality calculator coupled to the receiver to determine for each remote station from which data is received a signal quality measure of the received signal based on the samples of the received data from the remote station,

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such that, the receiving station selects one of the remote stations for communication according to a set of at least one criterion, said set including the respective received signal quality measure determined by the signal quality calculator for data from each of the respective remote stations,

wherein the signal quality calculator is an error vector magnitude calculator to determine for each remote station from which data is received a measure of the error vector magnitude of the received data from the remote station, the error vector magnitude based on samples approximately at decision points of the demodulator,

wherein at least some of the stations from which data is received are access points, and wherein the data received from remote stations that are access points are beacons or probe responses, such that one of the criteria for the station to select a remote access point for association is a measure of the error vector magnitude of a beacon or probe response received from the access point, and

wherein the EVM error vector magnitude of a beacon or a probe response received from the access point is used to determine the maximum transmission rate that the link between the station and the remote access points can support, and wherein the determined maximum supported transmission rate is one of the criteria for the station to select a remote access point for association.

16.-21. (Cancelled).

22. (Currently amended) An apparatus as recited in claim 20, for inclusion in a station of a wireless network, the apparatus comprising:

a radio receiver to wirelessly receive data from at least one remote station, said data transmitted by the remote station as at least one packet of data, the receiver including an analog-to-digital converter producing samples of signals received at the station from the remote station;

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a demodulator coupled to the radio receiver to demodulate samples of the signals received at the receiver from each station to produce demodulated signals from each of the remote stations;

a signal quality calculator coupled to the receiver to determine for each remote station from which data is received a signal quality measure of the received signal based on the samples of the received data from the remote station;

a transmitter to transmit data for transmission to at least one remote station; and

a data rate setting processor coupled to the signal quality calculator and to the transmitter and producing the data rate signal for the transmitter, the data rate signal set such that the data rate for transmission to a particular remote station is dependent on the measure of the signal quality produced by the signal quality calculator from signals received from the particular remote station.

such that, the receiving station selects one of the remote stations for communication according to a set of at least one criterion, said set including the respective received signal quality measure determined by the signal quality calculator for data from each of the respective remote stations,

wherein in the case that the received data is ascertained to be a probe request, an association request or a reassociation request, a packet for transmission by the transmitter from the station to a particular remote station that sent the request includes a measure of the received signal quality of the request received from the particular remote station,

wherein the measure of signal quality is a measure of the error vector magnitude of the received packet, the error vector magnitude based on samples approximately at decision points of the demodulator, and

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wherein the data rate processor includes a memory to store for each remote station from which data was received the measure of EVM error vector magnitude of the last packet received from the remote station, and a running average of the measure of EVM error vector magnitude of a number of packets last received from the remote station.

23. (Cancelled).

24. (Currently amended) An apparatus as recited in claim 12, for inclusion in a station of a wireless network, the apparatus comprising:

a radio receiver to wirelessly receive data from at least one remote station, said data transmitted by the remote station as at least one packet of data, the receiver including an analog-to-digital converter producing samples of signals received at the station from the remote station;

a demodulator coupled to the radio receiver to demodulate samples of the signals received at the receiver from each station to produce demodulated signals from each of the remote stations; and

a signal quality calculator coupled to the receiver to determine for each remote station from which data is received a signal quality measure of the received signal based on the samples of the received data from the remote station,

such that, the receiving station selects one of the remote stations for communication according to a set of at least one criterion, said set including the respective received signal quality measure determined by the signal quality calculator for data from each of the respective remote stations,

wherein the signal quality calculator is an error vector magnitude calculator to determine for each remote station from which data is received a measure of the error vector magnitude of the received data from the remote station, the error vector magnitude based on samples approximately at decision points of the demodulator, and

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wherein the determining of the measure of the EVM error vector magnitude of the received packet includes determining a result of a function of the average of the squared Euclidian distance on the I,Q plane between decision-point samples of the signal received and the nearest ideal constellation points to the decision points samples.

25. (Currently amended) An apparatus as recited in claim 12, for inclusion in a station of a wireless network, the apparatus comprising:

a radio receiver to wirelessly receive data from at least one remote station, said data transmitted by the remote station as at least one packet of data, the receiver including an analog-to-digital converter producing samples of signals received at the station from the remote station;

a demodulator coupled to the radio receiver to demodulate samples of the signals received at the receiver from each station to produce demodulated signals from each of the remote stations; and

a signal quality calculator coupled to the receiver to determine for each remote station from which data is received a signal quality measure of the received signal based on the samples of the received data from the remote station,

such that, the receiving station selects one of the remote stations for communication according to a set of at least one criterion, said set including the respective received signal quality measure determined by the signal quality calculator for data from each of the respective remote stations,

wherein the signal quality calculator is an error vector magnitude calculator to determine for each remote station from which data is received a measure of the error vector magnitude of the received data from the remote station, the error vector magnitude based on samples approximately at decision points of the demodulator, and

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wherein the EVM error vector magnitude calculator is coupled to the demodulator and wherein determining of the measure of the EVM error vector magnitude of the received packet includes determining a result of a function of the average of the squared Euclidian distance on the I,Q plane between decision-point samples of the signal received and the correct ideal constellation points for the signal as determined by demodulating the signal.

26.-39. (Cancelled).

40. (Currently amended) A method ~~as recited in claim 32, in a station of a wireless network, the method comprising:~~

wirelessly receiving data from at least one remote station, said data transmitted by the remote station as at least one packet of data;

sampling the received data corresponding to the received packet to form data samples;

demodulating the data samples;

determining a measure of signal quality from the samples of the received data; and

selecting one of the remote stations for communication according to a set of least one criteria including the respective determined received signal quality measure for data from each of the remote stations.

wherein the determining of the measure of signal quality includes determining a measure of the error vector magnitude of the received data from received samples approximately at the decision points for demodulating the data, and

wherein the determining of the measure of the EVM error vector magnitude of the received packet includes determining the average of the squared Euclidian distance on the I,Q plane between decision-point samples of the signal received and the nearest ideal constellation points to the decision point samples.

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41. (Currently amended) A method as recited in claim 32, in a station of a wireless network, the method comprising:

wirelessly receiving data from at least one remote station, said data transmitted by the remote station as at least one packet of data;

sampling the received data corresponding to the received packet to form data samples;

demodulating the data samples;

determining a measure of signal quality from the samples of the received data; and

selecting one of the remote stations for communication according to a set of least one criteria including the respective determined received signal quality measure for data from each of the remote stations.

wherein the determining of the measure of signal quality includes determining a measure of the error vector magnitude of the received data from received samples approximately at the decision points for demodulating the data, and

wherein the determining of the measure of the EVM error vector magnitude of the received packet includes determining the average of the squared Euclidian distance on the I,Q plane between decision-point samples of the signal received and the correct ideal constellation points for the signal as determined by demodulating the signal.

42.-72. (Cancelled).